

ABSTRACT OF THE DISCLOSURE

In this pattern inspection device, the optical scanning section scans the inspected pattern using the laser beam, the photoelectric image processing section generates the image of the inspected pattern, and the reference image generation section determines the edge boundary condition by convolution operation of the optical point spread function corresponding to the laser beam strength and the inspected pattern image and detects the edge position. The reference image generation section further calculates the gray level of each pixel according to the number of sub-pixels belonging to the pattern developed in each pixel and calculates the pattern width for the inspected pattern and the reference data with treating the count obtained by dividing the gray level by the gray level step count as the width of the pattern developed in that pixel.